



## **Responsible Conduct of Research (RCR)**

### **Brown Ethics and Responsible Conduct of Research Education (BEARCORE)**

#### **Fall 2019 Syllabus**

#### **Course Description**

The Brown Ethics And Responsible Conduct Of Research (BEARCORE) program is administered by the Office of the Vice President for Research and is offered to students and trainees from a variety of academic fields, biomedical and non-biomedical. It is designed to acquaint researchers and trainees with ethical issues that emerge in all disciplines, and to equip participants with knowledge and resources to conduct research responsibly and with the highest degree of excellence and integrity.

Successful completion of the BEARCORE training fulfills the National Institutes of Health's (NIH) and the National Science Foundation's (NSF) RCR requirements.

BEARCORE can be taken as a [Full RCR course](#) or a [Refresher course](#). If you have not completed an RCR course within the past four years, you must take the Full RCR course.

#### **Course Contacts**

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Jules Blyth: [Juliane\\_Blyth@brown.edu](mailto:Juliane_Blyth@brown.edu) Phone: 401-863-3295

#### **Course Dates**

<b>Core Sessions</b>	<b>Date</b>	<b>Time</b>	<b>Location</b>
Core Session I <i>Research Misconduct, Questionable Research Practices, and Authorship</i>	Wednesday, November 6	11 am – 1 pm	Crystal Room (Alumnea Hall)
Core Session II <i>Rigor and Reproducibility</i>	Wednesday, November 13	11 am – 1 pm	Pembroke Center 305

Core Session III <i>Fostering the Mentor-Mentee Relationship</i>	Wednesday, December 4	11 am – 1 pm	Petteruti Lounge, Stephen Robert '62 Campus Center
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<b>Elective Sessions</b>	<b>Date</b>	<b>Time</b>	<b>Location</b>
Elective Session I <i>Ethical Considerations in Human Subjects Research</i>	Friday, November 15	11 am – 12 pm	Horace Mann 103
Elective Session II <i>Science and Security</i>	Friday, November 15	12:30 pm – 1:30 pm	Horace Mann 103
Elective Session III <i>Conflict of Interest and Unconscious Bias</i>	Wednesday, November 20	11 am – 12 pm	Petteruti Lounge, Stephen Robert '62 Campus Center
Elective Session IV <i>Grants Management &amp; Fiscal Responsibility</i>	Wednesday, November 20	12:30 pm – 1:30 pm	Petteruti Lounge, Stephen Robert '62 Campus Center
Elective Session V <i>Intellectual Property/Commercialization in Academia</i>	Thursday, November 21	11 am – 12 pm	Horace Mann 103
Elective Session VI <i>Ethical Considerations in Animal Research</i>	Thursday, November 21	12:30 pm – 1:30 pm	Horace Mann 103
Elective Session VII <i>Conflict Resolution in Mentor/Mentee Relationships</i>	Monday, December 2	11 am – 12 pm	Horace Mann 103

### Final Group Sessions

The Final Group Session is a one-hour final case analysis session. The goal of this session is for participants to apply what they have learned during the course to real-life cases and scenarios that are presented to them for discussion.

Full BEARCORE Course students must sign up for one of the following sessions.

<b>Final Group Sessions</b>	<b>Date</b>	<b>Time</b>	<b>Location</b>
Session A	Friday, December 6	12:00 pm – 1:00 pm	ERC 125
Session B	Monday, December 9	11:00 am – 12:00 pm	ERC 125
Session C	Tuesday, December 10	12:00 pm – 1:00 pm	ERC 125
Session D	Wednesday, December 11	11:00 am – 12:00 pm	ERC 125

**Note:** A separate email will be sent out to register for electives and final group sessions, once the course has reached full capacity.

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## **Course Requirements**

### **Full BEARCORE Course:**

In order to earn a Certificate of Completion, participants must

- Attend all three Core sessions, and
- Attend at least two one-hour Elective sessions, and
- Participate in the final group session.

Participants are also expected to engage in class discussions and complete any assigned coursework.

### **BEARCORE Refresher Course:**

If you are enrolled in the BEARCORE refresher course, you must attend at least 8 hours of in-person teaching to receive the RCR Refresher certificate. However, you can choose what sessions to attend in order to fulfill the 8 hour training requirement. For example, you can attend two Core sessions (2 hours each) and four one-hour Elective sessions. Or you can attend one Core session and six Elective sessions. If enrolled in the Refresher Option, you do not need to attend the Final Group session in order to receive a certificate of completion.

**Required Readings/Assignments:** Relevant required readings or assignments will be given directly prior to each week's class.

## **BEARCORE Course Descriptions**

### **CORE SESSIONS**

#### **CORE Session I      Wednesday, November 6, 2019      11 am – 1 pm**

Topic: *Research Misconduct, Questionable Research Practices, and Authorship*

Graduate students learn about research norms and acceptable practices in their field by working closely with established researchers and academics, who provide training and mentoring in the responsible conduct of research. That is the theory. In practice, however, the level of training and mentoring that is provided varies from lab to lab; and it is not clear that the responsible conduct of research is taught with the same emphasis and rigor across disciplines.

Many real life cases of unethical conduct of research reveal a whole host of shortcomings: from inadequate mentoring, insufficient oversight, and ad hoc or sloppy training, to pressure and intimidation, as well as deliberate teaching of questionable research practices. Moreover, Research Integrity Officers know all

too well that when things go wrong, it is usually not one but many problems that surface, and the fall-out can be significant.

In this session, we will use case studies to explore questionable research practices, research misconduct, and criteria for authorship.

We also discuss the avenues and mechanisms for asking questions and raising concerns, as well as look at applicable regulations, policies or guidelines you should be aware of.

Speaker(s)/Facilitators:

Jill Pipher, Ph.D., Vice President for Research, Elisha Benjamin Andrews Professor of Mathematics, Brown University

Stacey Springs, Ph.D., Research Integrity Officer, Harvard University

Keri Godin, Director, Office of Research Integrity, Brown University

Jules Blyth, Associate Director, Office of Research Integrity, Brown University

Location: Crystal Room, Alumnae Hall, 194 Meeting Street

**CORE Session II   Wednesday, November 13, 2019      11 am – 1 pm**

Topic: *Rigor and Reproducibility*

Rigor and reproducibility are critical for the advancement of science. However there is an increasing trend of reports of failure to replicate important basic and clinical studies, and many federal sponsors are now requiring that researchers explicitly address scientific rigor in grant applications.

This session looks at ways to ensure and improve rigor in scientific research, including looking at randomization, blinding, data handling (data inclusion/exclusion), as well as thorough and transparent reporting.

We will also review data retention and stewardship expectations for research data at Brown and local tools for managing, preserving, and sharing research data. Moreover, you will learn about public access policies, adopted by the major federal research funding agencies and journals, for sharing publicly-funded research data with the public. These policies require that researchers develop data management and sharing plans for inclusion along with grant proposals outlining how data will be stored, backed up, secured, documented, disseminated and preserved.

Speaker(s)/Facilitators:

Andrew Creamer, Scientific Data Management Specialist, University Library

Audra Van Wart, Ph.D., Associate Dean of Training, Education, and Professional Development, Assistant Professor of Medical Sciences, Office of Graduate and Postdoctoral Studies, Division of Biology and Medicine, Brown University

Location: Pembroke Hall 305, 172 Meeting Street

**CORE Session III Wednesday, December 4, 2019**

**11 am – 1 pm**

Topic: *Fostering the Mentor-Mentee Relationship*

This session will be facilitated by faculty trained by [NRMN](#) and will use a case-based approach to explore an intellectual framework for research mentoring, providing opportunities for reflection on mentoring skills and the mentor-mentee relationship, and an interactive forum to solve mentoring dilemmas and share strategies for success.

Speaker(s)/Facilitators:

Diane Hoffman-Kim, Ph.D., Associate Professor of Medical Science, Associate Professor of Engineering, Brown University

Ulrike Mende, M.D., Professor of Medicine, Brown University

Location: Petteruti Lounge (Room 201), Stephen Robert '62 Campus Center

**ELECTIVE SESSIONS**

**Elective Session I Friday, November 15, 2019**

**11 am – 12 pm**

Topic: *Ethical Considerations in Human Subjects Research*

This session will offer an overview of the responsible conduct of research as it pertains to human subjects research, whether biomedical or social/behavioral/educational. The presenters will provide an overview of the historical and ethical framework that form the basis of the human subjects research regulations that we follow today. Case studies will be presented to encourage discussion.

Course Instructor(s)/Facilitators:

Paul Christopher, Assistant Professor of Psychiatry and Human Behavior, Brown University

Keri Godin, Director, Office of Research Integrity, Brown University

Location: tbd

**Elective Session II Friday, November 15, 2019**      **12:30 pm – 1:30 pm**

Topic: *Science and Security*

To ensure the widest possible dissemination of research results, universities focus most of their efforts on conducting basic research that is intended to be shared and published openly in the scientific literature. There are, however, instances when information and technology generated in universities cannot be shared widely for a variety of reasons, including national and economic security. In these instances, universities and its researchers must strike a balance between scientific openness and controlling the release of information.

In this session, we will address several topics that academic researchers should have basic knowledge of: export controls and deemed exports; classified vs. fundamental research; data sharing and protection; and sharing of research materials.

We will also discuss the increased scrutiny and legislative action from the U.S. government in response to a perceived increase of academic espionage and theft of intellectual property.

Course Instructor(s)/Facilitators:

Rebecca Haworth, J.D., Research Integrity Manager,  
Brown University

Location: tbd

**Elective Session III**      **Wednesday, November 20, 2019**      **11 am – 12 pm**

Topic: *Conflict of Interest and Unconscious Bias*

*“The idea that scientists are objective seekers of truth is a pleasing fiction, but counterproductive in so far as it can lessen vigilance against bias.”* (Young, SN)

Cognitive and motivational mechanisms can produce bias and influence our judgment and behavior. Scientists are not immune to this. The reproducibility crisis has been linked, in part, to cognitive habits that have led to errors and mistakes in scientific research. Developing an awareness and understanding of these mechanisms is an important first step in helping to safeguard against such errors.

We will further explore in detail the concept of “Conflict of Interest (COI)” and, specifically, how conflicts can affect research. We will discuss some recent COI

cases, and explore federal regulations and policies governing conflicts of interest in research.

Course Instructor(s)/Facilitators:

Jules Blyth, Associate Director, Office of Research Integrity

Location: tbd

**Elective Session IV**      **Wednesday, November 20, 2019 12:30 pm – 1:30 pm**

Topic: *Grants Management & Fiscal Responsibility*

Most scientists will, in the course of their career, receive sponsored research support, whether it is through a federal grant, a work order, an industry contract or a gift. Unfortunately, most scientists never receive any training on how to manage a grant responsibly. What are the rights and responsibilities under certain funding mechanisms? What is the life cycle of a sponsored award and what is expected of the Principal Investigator (PI) at each stage of the award?

This session will explore the various sponsored research mechanisms and discuss funders' expectations and PI responsibilities.

Course Instructor(s)/Facilitators:

Patrice Carroll, Director, Office of Sponsored Projects

Katherine Fleck, Associate Director, Office of Sponsored Projects

Location: tbd

**Elective Session V**      **Thursday, November 21, 2019 11 am – 12 pm**

Topic: *Intellectual Property/Commercialization in Academia*

How does intellectual property (IP), created in an academic research environment, moves from discovery to market? What role does the university play in the commercialization process? Who owns the IP and who pays for the patent costs? What is the difference between a patent, copyright, and authorship? Who can be an inventor on IP?

These and many other questions will be answered in this session by our experts from Brown's Industry Engagement and Commercial Venturing Office (IECV) and faculty with commercialization experience.

This session will also look at proprietary information. Unlike companies, which are fiercely protective of their research results and data, academia has always fostered a culture of collaboration and sharing. However, an increase in collaborations with industry has introduced proprietary information into the academic research enterprise. Attendees will learn what researchers should know when working with such information.

Course Instructor(s)/Speaker(s):

Brian Demers, Director of Business Development, Office of Industry Engagement & Commercial Venturing

Leonard Katzman, Esq., Director of Business Development, Office of Industry Engagement & Commercial Venturing

Location: tbd

**Elective Session VI**      **Thursday, November 21, 2019 12:30 pm – 1:30 pm**

Topic: *Ethical Considerations in Animal Research*

The scientific community largely views research with animal subjects as a scientific necessity to find cures and treatments that will benefit society. However, the use of animals in research is fraught with emotion and considered unethical by some, and anti-research organizations are focused on ending this practice. This session will explore responsible conduct of research as it applies to the use of animals in research. What is the regulatory framework that governs their use? What are a researcher's ethical obligations when working with animals? This sessions will discuss the historical and ethical framework that forms the basis of today's animal research regulations and use realistic scenarios to walk through ethical decision-making as it pertains to using animals in research.

Course Instructor(s)/Facilitators:

Lara Helwig, D.V.M., DAACLAM, Director of Animal Care and Attending Veterinarian, Brown University

Eugene Matullo, Assistant Director Animal Research Protection Program, Brown University

Location: tbd

**Elective Session VII****Monday, December 2, 2019****11 am – 12 pm**Topic: *Conflict Resolution in Mentor/Mentee Relationships*

A strong mentor-mentee relationship is key to a positive and successful learning experience. When conflicts arise between mentors and mentees, they can affect an entire lab or research team. Addressing and resolving a conflict as soon as it arises is essential to maintaining a strong mentor-mentee relationship. While many people try to avoid conflict at all costs, dealing with an issue between a mentor and mentee can sometimes help to strengthen and solidify the relationship if the issue is rectified in a positive manner. This interactive session explores methods and processes for resolving conflicts between mentors and mentees. It also discusses what resources are available at Brown to facilitate conflict resolution.

Course Instructor(s)/Facilitators:

Ruth Kohorn Rosenberg, J.D., Brown University Ombudsperson

Location: tbd